

3a

$$\frac{\delta \text{Loss}}{\delta W_{\text{out}}} = \frac{\delta \text{Loss}}{\delta A_{\text{out}}} \cdot \frac{\delta A_{\text{out}}}{\delta Z_{\text{out}}} \circ \frac{\delta Z_{\text{out}}}{\delta W_{\text{out}}}$$

$$\frac{\delta \text{Loss}}{\delta b_{\text{out}}} = \frac{\delta \text{Loss}}{\delta A_{\text{out}}} \circ \frac{\delta A_{\text{out}}}{\delta Z_{\text{out}}} \circ \frac{\delta Z_{\text{out}}}{\delta b_{\text{out}}}$$

$$\frac{\delta \text{Loss}}{\delta A_1} = \frac{\delta \text{Loss}}{\delta A_{\text{out}}} \circ \frac{\delta A_{\text{out}}}{\delta Z_{\text{out}}} \circ \frac{\delta Z_{\text{out}}}{\delta A_1}$$

$$\frac{\delta \text{Loss}}{\delta W_1} = \frac{\delta \text{Loss}}{\delta A_{\text{out}}} \circ \frac{\delta A_{\text{out}}}{\delta Z_{\text{out}}} \circ \frac{\delta Z_{\text{out}}}{\delta A_1} \circ \frac{\delta A_1}{\delta Z_1} \circ \frac{\delta Z_1}{\delta W_1}$$

$$\frac{\delta \text{Loss}}{\delta b_1} = \frac{\delta \text{Loss}}{\delta A_{\text{out}}} \circ \frac{\delta A_{\text{out}}}{\delta Z_{\text{out}}} \circ \frac{\delta Z_{\text{out}}}{\delta A_1} \circ \frac{\delta A_1}{\delta Z_1} \circ \frac{\delta Z_1}{\delta b_1}$$